

**CALIFORNIA ENERGY COMMISSION**

**INITIAL STATEMENT OF REASONS**

**FOR PROPOSED AMENDMENTS TO**

**CALIFORNIA CODE OF REGULATIONS, TITLE 20:**  
**DIVISION 2, CHAPTER 4: ENERGY CONSERVATION,**  
**ARTICLE 4: APPLIANCE EFFICIENCY REGULATIONS**

**and**

**CALIFORNIA CODE OF REGULATIONS, TITLE 24:**  
**PART 6, SUBCHAPTER 2: BUILDING STANDARDS**

**Docket No. 01-AB970-APSTD**

**November 2001**

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## **Introduction**

In this rulemaking proceeding the California Energy Commission (Commission) is proposing to amend its regulations concerning the energy efficiency of appliances. The Commission also proposes to amend related provisions in its building standards. The Commission intends to adopt the proposed amendments on January 9, 2002.

## **Historical Background and General Purpose of the Proposed Amendments**

Existing law (Public Resources Code Section 25402(c)) requires the Commission to adopt regulations that prescribe minimum efficiency levels for appliances. The standards setting the minimum efficiency levels must be feasible and cost-effective.

Existing law also requires the Commission to adopt standards for energy efficiency in buildings. (Public Resources Code Sections 25402(a)-(b).) The current building standards state that buildings must comply with specified provisions of the appliance regulations.

The Commission first adopted appliance and building standards in the late 1970s and has periodically revised them since then. The current appliance regulations include provisions on testing of appliances to determine their efficiency, reporting of efficiency data to the Commission, the substantive standards establishing mandatory efficiency levels, and compliance and enforcement procedures.

On September 6, 2000, Governor Davis signed Assembly Bill 970 (Stats. 2000, ch. 329) (AB 970), also known as the California Energy Security and Reliability Act of 2000. The Act provides for a balanced response to the electricity problems facing the state: significant new investments in environmentally superior electricity generation and in conservation programs. The Commission is directed by the Act to adopt and implement updated and cost-effective appliance and building efficiency standards within 120 days after the effective date of the Act, or the earliest feasible date thereafter, that result in "maximum feasible reductions in wasteful, uneconomic, inefficient or unnecessary consumption of electricity." (Public Resources Code Section 25553(b).)

## **Summary of the Proposed Amendments**

The proposed amendments include two major types of changes. First, in November 1998, well before AB 970 was enacted, the Commission had begun a rulemaking proceeding to update the appliance regulations by making numerous administrative changes, none of which would affect the levels of efficiency that appliances are required to meet, but all of which would include user-friendliness and ease of compliance. All of those changes are included in the proposed amendments that are the subject of this Initial Statement of Reasons.

Second, the amendments include proposed changes that would (a) amend the levels of efficiency that the current regulations require for some appliances, and (b) add new appliances to the regulations and establish efficiency requirements (or in some

cases, just reporting requirements) for them. All efficiency levels required by the regulations are performance standards.

The proposed amendments would re-organize and re-number some of the existing regulations. The correspondence is as follows:

| <u>Current Regulations</u> |                         | <u>After Proposed Amendments</u> |  |
|----------------------------|-------------------------|----------------------------------|--|
| 1601                       | Scope                   | 1601                             | Scope  |
| 1602                       | Definitions             | 1602                             | Definitions and Rules of Construction  |
| 1603                       | Test Methods            | 1603                             | Testing: All Appliances  |
|                            |                         | 1604                             | Test Methods for Specific Appliances   |
| 1604                       | Efficiency Standards    | 1605                             | Energy Performance, Energy Design, Water Performance, and Water Design Standards: In General   |
|                            |                         | 1605.1                           | Federally-Regulated Appliances: Standards Applicable to Both Sale (Federal Enforcement) and to Title 24 Construction (California Enforcement)                            |
|                            |                         | 1605.2                           | State Standards for Federally-Regulated Appliances: Standards Applicable to Both Sale (California Enforcement) and to Title 24 Construction (California Enforcement)     |
|                            |                         | 1605.3                           | State Standards for Non-Federally-Regulated Appliances: Standards Applicable to Both Sale (California Enforcement) and to Title 24 Construction (California Enforcement) |
| 1605                       | Constant Burning Pilots | —                                | [Pilot light requirements are included in Sections 1605.1 and 1605.3]  |
| 1606                       | Certification           | 1606                             | Filing by Manufacturers; Listing of Appliances in Database   |
| 1607                       | Identification of       | 1607                             | Marking of Appliances Complying Appliances   |
| 1608                       | Enforcement             | 1608                             | Compliance, Enforcement, and General Administrative Matters  |

### **Impacts on Businesses/Small Businesses**

The improved levels of efficiency for the affected appliances will increase the first cost of most every affected appliance. However, the improved efficiency results in reduced energy use and reduced utility bills to a business. The Commission conducted a cost effectiveness analysis that shows an increase in first costs to businesses ranging from \$20 to \$506, depending on the particular appliances that are purchased. Statewide, these first costs total \$252,290,000 once the proposed regulations take full effect. This increase in first costs is offset by annual statewide energy cost savings of \$910,835,000.

The cost effectiveness analysis is available under separate cover. Also available is the Economic and Fiscal Impact Statement (Std 399).

## **Factors Applicable to All Sections**

Several of the Administrative Procedures Act's requirements for the Initial Statement of Reasons call for the same general information for each section of the proposed appliance regulations. To save space and the reader's time, we provide that general information here. Where additional information is required, it is presented under the appropriate individual section.

## **Basic Purpose and Rationale for All Changes**

Growth in electricity demand has strained the reliability of California's electricity system and has in some circumstances contributed to a substantial rise in electricity prices. In response to California's continuing risk of outages and high prices, the proposed amendments would add new efficiency standards and reporting requirements for several new appliances and would tighten the current efficiency requirements for others. Those standards will save a substantial amount of electricity, thereby relieving the strained supply situation and contributing to an easing of high prices. Those goals will also be served by clarifying and making more efficient the rules regarding compliance with and enforcement of the standards.

## **Studies, Reports, and Documents Relied On**

Arthur D. Little Co., "Energy Savings Potential for Commercial Refrigeration Equipment", June 1996

Cadmus Group Inc. "Preliminary Engineering Analysis of Commercial Reach-in Refrigerators and Freezers," February 25, 2000.

California Energy Commission's Appliance Databases

California Energy Commission's Electricity Forecasting Office

DeLaski, Andrew, ASAP. Residential Central Air Conditioning, November 8, 2000, via e-mail.

DeLaski, Andrew, ASAP. Residential Water Heaters, November 9, 2000, via personal communication.

Directory of Certified Heat Pump Pool Heaters, Edition No. 3. Pool Heat Pump Manufacturers Association, October 2000.

Eilert, Patrick, PG&E. "Dry-type Transformer CASE Study," September 29, 2000.

Eilert, Patrick, PG&E. "Energy Efficient Exit Signs CASE Study," September 29, 2000.

Horowitz, Noah, NRDC. Refrigerated Coin-Operated Vending Machines, November 2, 2000 via personal communication .

Horowitz, Noah, NRDC & Chris Calwell, Ecos Consulting. Torchiere fixtures, November 2, 2000, via personal communication.

Huang, Robert, The Cadmus Group. "Energy Star-Labeled Commercial and Industrial Transformers", July 21, 2000.

Leber, Jon, CEC. "Summary of Cost Effectiveness, Methodology and Assumptions", March 29, 1990.

Lew, Virginia, CEC. Traffic Signals, personal communication, November 1, 2000.

Lighting Research Center. "Optimizing the Design and Use of Light-Emitting Diodes for Visually Critical Applications in Transportation and Architecture," January 2000.

Lutz, Jim, LBNL. Heat Pump Pool Heaters, Pool and Spa Heater Estimates, November 10, 2000, via personal communication.

Martin, R. Michael, and Jim Holland. California Energy Commission. Staff Report on Appliance Rulemaking for Central Air Conditioners and Small Water Heaters. February 2, 2001.

Nadel, Steve, ACEEE. Commercial Reach-In, Roll-In, etc. Refrigerators, Freezers, etc., November 7, 2000, via personal communication.

Nadel, Steve, ACEEE. Commercial Air-Cooled Air Conditioners and Heat Pumps, November 7 2000, via personal communication.

Natural Gas Market Outlook 2000-2020

Paquette, Mark, Intertek Testing. Heat Pump Pool Heaters, November 14, 2000

Pope, Ted, Energy-Solutions. Commercial Clothes Washers, November 3, 2000, and December 15, 2000, via personal communication.

Schmeltz, Rachel, EPA. Refrigerated Coin-Operated Beverage Vending Machines, November 1, 2000, via personal communication.

U.S. Department of Energy. Final Rule for Central Air Conditioners and Heat Pumps, Federal Register, January 22, 2001 (and related Technical Support Document).

U.S. Department of Energy. Final Rule for Clothes Washers; Federal Register, January 12, 2001.

U.S. Department of Energy. Final Rule for Commercial Heating, Air Conditioning, and Water Heating Equipment; Federal Register, January 12, 2001.

U.S. Department of Energy. Final Rule for Water Heaters; Federal Register, January 17, 2001.

## **Alternatives and Reasons for Rejection, Including Alternatives to Lessen Impacts on Small Businesses**

The Commission intends and believes that the proposed regulations impose the smallest burdens possible, while still meeting the legitimate data needs of the Commission, market participants, and the public.

### **Efforts to Avoid Unnecessary Duplication with Federal Regulations**

There is a complex interaction between federal and state regulations on appliances. (See generally 42 U.S.C. Sections 6297, 6316.) The proposed amendments do include some federal standards. However, they do so for only two reasons: (1) to provide all applicable standards, both federal and California, in one convenient place for the reader; (2) to give California the independent authority to enforce the federal standards through its building standards (which incorporate the appliance standards by reference)<sup>1</sup>, which is appropriate because federal enforcement is minimal to non-existent.

### **Section-by-Section Analysis: Circumstances Addressed by, and Purposes and Rationales for Each Section**

#### **Section 1601. Scope.**

The proposed amendments would add the appliances listed below to the scope of the regulations. Subsequent sections would add test methods, reporting requirements, and, in most cases, efficiency standards. (For some new appliances there would no efficiency standards. Those are appliances for which there is currently insufficient data on which to base standards, usually because test methods have only recently been developed. Data collected pursuant to the reporting requirements of the regulations will help consumers in making purchase decisions and help determine if future efficiency standards are justified.) The new appliances are being added to the regulations because efficiency standards and reporting requirements now appear justified, or because efficiency standards for those appliances have been adopted at the federal level.

The appliances that would be included in the scope of the regulations are:

- (a) Refrigerators, refrigerator-freezers, and freezers
- (b) Room air conditioners
- (c) Central air conditioners
- (d) Spot air conditioners
- (e) Gas and oil space heaters

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<sup>1</sup> In general, when the federal government adopts an energy efficiency standard for an appliance, state energy efficiency standards for that appliance are preempted – even state standards that are exactly the same as the federal standards. (See generally 42 U.S.C. Sections 6297, 6316.) However, states may adopt and enforce standards, if (in general) the standards are equal to the federal standards and if the state standards are in the state's building code. (See generally *id.* Sections 6297(f), 6316(b)(2)(B).)

- (f) Water heaters
- (g) Pool heaters
- (h) Plumbing fittings
- (i) Plumbing fixtures
- (j) Fluorescent lamp ballasts
- (k) Lamps
- (l) Emergency lighting (exit signs)
- (m) Traffic signal modules
- (n) Luminaires
- (o) Dishwashers
- (p) Clothes washers
- (q) Clothes dryers
- (r) Cooking products and food service equipment
- (s) Electric motors
- (t) Distribution transformers

#### Section 1602. Definitions and Rules of Construction.

The amendments to Section 1602 establish rules of construction that will make the regulations easier to understand and to use. They also contain definitions of many new terms used in the regulations. Some definitions are related to newly regulated appliances. Others are definitions that have been used in the past but not defined in the regulations. In order to make the regulations clear, the Commission must define terms that otherwise could be susceptible to different interpretations or that may be unfamiliar to those who have to comply with the regulations.

#### Section 1603. Testing: All Appliances.

The proposed amendments would consolidate generic testing requirements applicable to all appliances in one place. In addition, the proposed amendments would also establish more strict requirements for testing laboratories, and for appliance manufacturers that do not participate in an industry-wide certification program. Those requirements would create a strong incentive for manufacturers to join such programs (or, for appliances where no industry-wide certification programs yet exist, to create them). The Commission has found that manufacturer self-policing through industry-wide certification programs significantly improves the quality of data published by manufacturers, especially if the Commission receives data necessary to provide a double-check. The Commission believes that relying on such programs can provide advantages over government monitoring.

#### Section 1604. Test Methods for Specific Appliances.



Section 1604 lists the methods with which the efficiency of each appliance is determined. The current regulations contain some test methods that have been superceded with more accurate tests, and it is necessary for the proposed amendments to include the most up-to-date methods. New or revised test methods are proposed for the following appliances. In some cases, the changes are merely to later editions of published test method documents, where the test method itself is unchanged. The proposed regulations contain new or revised test methods for:

- Commercial refrigerators, refrigerator-freezers, and freezers
- Wine chillers
- Refrigerated bottled or canned beverage vending machines
- Refrigerated buffet and preparation tables
- Room air conditioners
- Packaged terminal air conditioners
- Central air conditioners
- Warm air furnaces
- Patio heaters
- Gas infrared heaters
- Unit heaters
- Duct furnaces
- Boilers
- Wall furnaces, floor furnaces and room heaters
- Combination space-heating and water heating appliances
- Booster water heaters
- Other water heaters
- Pool heaters
- Plumbing fittings
- Plumbing fixtures
- Fluorescent lamp ballasts
- Lamps
- Emergency Lighting (exit signs)
- Traffic signals
- Dishwashers
- Clothes washers
- Clothes dryers
- Cooking products
- Commercial hot food holding cabinets
- Commercial convection ovens
- Commercial range tops
- Electric motors
- Distribution transformers

Section 1605: Energy Performance, Energy Design, Water Performance, and Water Design Standards: In General.

Section 1605 contains provisions concerning standards for all appliances, while Sections 1605.1, 1605.2, and 1605.3 contain the actual efficiency standards for each

particular appliance. Sections 1605(a) – (c) summarily describe the contents of Section 1605.1, 1605.2, and 1605.3, and provides a useful overview of the standards for the people who are responsible for enforcing and complying with the standards.

Subsections 1605(d) – (f) state general rules. It is necessary to state these rules because without them it would be unclear which requirements apply; as a result, the people who have to comply with the standards would not know what was necessary for compliance.

Subsection 1605(d) states that if an appliance has more than one efficiency standard listed in the regulations, the appliance must comply with each standard.

Subsection 1605(e) states that if an appliance has more than one test method listed in the regulations, the appliance must be tested with each method, except for those appliances where the appropriate provision in Section 1604 specifically allows a choice of test method, at the manufacturer's option.

Subsection 1605(f) states that if an appliance serves more than one function, such as service water heating appliances, and space heating boilers, the appliance must comply with each applicable standard. This does not apply to federally regulated consumer products.

#### Section 1605.1. Federally-Regulated Appliances: Standards Applicable To Both Sale (Federal Enforcement) and To Title 24 Construction (California Enforcement).

The proposed amendments would add new and revised federal standards adopted either by Congress (See 42 U.S.C. Sections 6295, 6313) or, pursuant to Congressional authority, by the U.S. Department of Energy (see *id.* Sections 6292(b), 6295(a)(2), 6312(b); 10 CFR Part 430, Subpart C; 10 CFR Part 431, Subpart C). In general, the federal standards are required by federal law to be feasible and cost-effective. The new and revised federal standards that the proposed amendments would add to the Commission's regulations are for the following appliances:

- Refrigerators, refrigerator-freezers, and freezers
- Room air conditioners and heat pumps
- Packaged terminal air conditioners and heat pumps
- Central air conditioners and heat pumps
- Space heaters
- Water heaters
- Pool heaters
- Plumbing fittings
- Plumbing fixtures
- Fluorescent lamp ballasts
- Lamps
- Dishwashers
- Clothes washers
- Clothes dryers
- Cooking Products

## Electric motors

Sections 100 and 111 of Part 6, Subchapter 2 of the Title 24 building standards, described more fully below, make clear that the appliance regulations are incorporated into the building standards. Such incorporation allows states to independently enforce the federal standards as their own. (See 42 U.S.C. Sections 6297(d), 6316(a), (b)(2)(B).) Federal enforcement of federal legislation and regulation related to the sale of appliances is minimal at best, and federal enforcement concerning appliances installed in buildings is non-existent. It is vital for California to be able to independently enforce the federal standards, in order to be sure that its residents obtain the full benefit of the federal standards.

### Section 1605.2. State Standards for Federally-Regulated Appliances: Standards Applicable to Both Sale (California Enforcement) and to Title 24 Construction (California Enforcement)

The proposed regulations contain new or revised standards for air cooled central air conditioners and air source heat pumps with cooling capacity up to 240,000 Btu per hour. Each standard in this Section takes effect on:

- (1) the effective date of a waiver from federal preemption granted by the U.S. Department of Energy for the standard; or
- (2) one year after removal of federal preemption by action such as a change in federal law, but no earlier than July 1, 2004.

Under state law, as described in Section 1608 no appliance may be sold or offered for sale in California, or installed in Title 24 construction, unless the appliance complies with the applicable standard in this Section.

California law states that the Commission's appliance standards apply to appliances whose use requires a significant amount of energy statewide, and that they be feasible and cost-effective. The rationales for each new or revised state standard are shown below.

*Air-cooled air conditioners and air-source heat pumps with cooling capacity up to 65,000 Btu per hour.*

Statewide energy use: The Commission made a finding that air conditioners are appliances whose use requires a significant amount of energy on a statewide basis when it initially adopted standards for air conditioners in 1976. The situation has not changed. Statewide energy use of this size and type of equipment is estimated to be 4,011 gigawatt hours per year (gWh/year). Moreover, air conditioner use is particularly important in these times of potential supply shortages, because air conditioners are used most heavily during the periods when electricity demand is highest.

Feasibility: The Commission's database lists 929 models that currently comply with the proposed standards.

Cost-effectiveness: The cost added by the proposed standards would be about \$121 per unit; the increased efficiency would save almost \$24 per year in energy costs, resulting in a simple payback of about 5 years. This is significantly less than the average lifetime of 18 years.

*Air conditioners and heat pumps with cooling capacity between 65,000 and 240,000 Btu per hour*

Statewide energy use: The Commission made a finding that air conditioners are appliances whose use requires a significant amount of energy on a statewide basis when it initially adopted standards for air conditioners in 1976. The situation has not changed. Statewide energy use of this size and type of equipment is around 11,000 gWh/year. Moreover, air conditioner use is particularly important in these times of potential supply shortages, because air conditioners are used most heavily during the periods when electricity demand is highest.

Feasibility: The Commission's database lists 478 models that comply with the proposed standards.

Cost-effectiveness: For a typical unit, the incremental first cost is \$160. With an annual energy savings of \$321, the resulting payback period is 0.5 years; the expected life of the equipment is 15 years.

Section 1605.3. State Standards for Non-Federally-Regulated Appliances: Standards Applicable to Both Sale (California Enforcement) and to Title 24 Construction (California Enforcement).

The proposed amendments would add new and revised standards for the appliances listed below. Unlike the standards in Section 1605.1, the standards in 1605.3 are exclusively state standards; they are independently adopted by the Commission pursuant to California law. California law requires that the Commission's appliance standards apply to appliances whose use requires a significant amount of energy statewide, and that they are feasible and cost-effective. The rationales for each new or revised state standard are shown below.

*Refrigerated coin-operated beverage vending machines*

Statewide energy use: The Commission already regulates refrigerators, refrigerator-freezers, and freezers, of which refrigerated vending machines are an important part. The Commission made a finding that refrigerators, refrigerator-freezers, and freezers are appliances whose use requires a significant amount of energy on a statewide basis when it initially adopted standards for refrigerators, refrigerator-freezers, and freezers in 1976. The situation has not changed. Statewide energy use by refrigerated coin-operated beverage vending machines is estimated to be 1,889 million kWh/year.

Feasibility: The proposed standards would require the use of T8 lamps with electronic ballasts or other technology resulting in equal or better energy efficiency. Two major manufacturers of the lamps have confirmed that this technology is readily available in the sizes required for vending machines, in large quantities.

Cost-effectiveness: T-8 lamps using electronic ballasts would reduce the electric input by 40 watts per machine, compared to electricity consumption with conventional T-12 fluorescent lamps. It would result in an initial cost increase of \$25, but with annual energy savings of \$40/year, a payback period of less than one year is expected.

*Commercial reach-in, roll-in, roll-through, pass-through refrigerators, refrigerator-freezers, and freezers and wine chillers*

Statewide energy use: The Commission already regulates refrigerators, refrigerator-freezers, and freezers. The Commission made a finding that refrigerators, refrigerator-freezers, and freezers are appliances whose use requires a significant amount of energy on a statewide basis when it initially adopted standards for those appliances in 1976. The situation has not changed. Statewide energy use of commercial refrigerating equipment is estimated to be 1,400 gWh/year.

Feasibility: Over 75 percent of the models listed in the Commission's database already comply with the proposed standards.

Cost-effectiveness: Adoption of the proposed standards for refrigerators and freezers would incur an increased cost of \$380, but would reduce energy costs by approximately \$200 a year, resulting in a payback period of 2 years or less.

*Heat pump pool heaters*

Statewide energy use: Heat pump pool heaters are one type of pool heater. The Commission made a finding that pool heaters are appliances whose use requires a significant amount of energy on a statewide basis when it initially adopted standards for gas and oil pool heaters in 1978. The situation has not changed. Statewide energy use for pool heating equipment is about 3.7 gWh/year.

Feasibility: All the models listed in the trade association directory comply with the proposed standard for heat pump pool heaters.

Cost-effectiveness: The incremental cost of complying with the standard, for those not part of the trade association is unclear due to lack of data. Staff assumes that in all cases, it would be paid back by no more than 2 years' worth of energy savings.

*Tub spout diverters*

Statewide energy use: Tub spout diverters are one type of plumbing fitting. The Commission made a finding that plumbing fittings are appliances whose use

requires a significant amount of energy on a statewide basis, when it initially adopted standards for plumbing fittings in 1977. The situation has not changed.

Feasibility: Over 70 percent of the models listed in the Commission's database already comply with the proposed standard.

Cost-effectiveness: There appears to be no relationship between the price of bathtub spout diverters and the reported leakage rates. The price appears to be related strictly to the quality of material the device is made of and not related to leakage; therefore, no additional cost is attributed to the proposed standard.

### *Emergency Lighting (Exit Signs)*

Statewide energy use: Annual energy consumption is approximately 12 gWh/year.

Feasibility: Seventy-eight percent of the sales of exit signs already comply with the proposed standard.

Cost-effectiveness: Expected energy savings are 9.9 gWh the first year, rising to 39.3 gWh/year by 2010. Non-energy benefits such as lower maintenance and longer life make the proposed standard cost-effective even without considering energy costs: the first cost of LED exit signs, which is the most likely method of complying with the standards, is within \$20 of incandescent exit signs, and the annual operating cost (energy, labor, parts) for LED exit signs is less than \$2.00 compared to over \$65 for incandescent exit signs.

### *Traffic signals*

Statewide energy use: Statewide energy use is around 1,300 gWh/year.

Feasibility: Traffic signals that meet the proposed regulations are widely available and are already being used in increasing numbers throughout the state.

Cost-effectiveness: LED traffic lights would use much less energy than the incandescent lights that they replace. The costs of complying with the standard would be paid back through reduced energy costs in about 7 years.

### *Torchiere fixtures*

Statewide energy use: Torchiere fixture energy consumption is estimated at 3,965 gWh/year (3,200 gWh/year for halogen fixtures alone).

Feasibility: High-efficiency torchiere fixtures are already available, and utilities are providing financial incentives for their purchase.

Cost-effectiveness: The proposed standard would typically result in changing from 300-watt halogen lamps to 60-watt compact fluorescent lamps, which provide equivalent amounts of light. The added initial cost would be around \$20; the savings

in energy costs would be approximately \$45 each year, resulting in a one-half year payback period.

#### *Commercial clothes washers*

Statewide energy use: Energy use in 2003 is estimated to be 315 gWh and 43,000,000 therms for commercial clothes washers in multifamily common areas and laundromats.

Feasibility: A leading manufacturer of clothes washers has confirmed that complying models are available.

Cost-effectiveness: Data from a current U.S. Department of Energy rulemaking indicates that the incremental costs of the proposed standard would be about \$300. Currently, high-efficiency commercial clothes washers cost just under \$1000, compared to \$600 for conventional models. The proposed standards would save about 456 kWh/year and 70 therms/year depending on whether the water is heated by electricity or gas, saving \$109 per year and resulting in a payback of less than 3 years.

#### *Low voltage dry-type distribution transformers*

Statewide energy use: The term "energy use" cannot be strictly applied to transformers, because they do not "use" electricity; rather, they change the voltage of electricity that passes through them. However, power loss in transformers has been estimated at close to 57 gWh/year.

Feasibility: The proposed standards were developed by transformer manufacturers; they would not have been proposed if the manufacturers did not believe them to be technologically feasible.

Cost-effectiveness: The proposed standard would reduce transformer energy loss by 50 percent, with a payback in under 2 years.

#### Section 1606: Filing by Manufacturers; Listing of Appliances in Database.

The proposed amendments to this section would, by revising some current provisions and adding new ones, substantially clarify the responsibilities of manufacturers and the process whereby appliances qualify to be sold or offered for sale in California.

Filing of Statements for New or Modified Models. Subsection (a) requires manufacturers to submit to the Commission a statement for each new or revised appliance model. The subsections specify in detail the information that must be provided. Of particular importance is Table U, which lists all the categories of data on appliances (e.g., volume, energy use, compliance with applicable standards). The current regulations incorporate compliance forms by reference but do not expressly list the information required, so the reader does not have in one place both the regulations and the information requirements; the proposed amendments would make it easier to understand what is

required. This subsection would also establish important rules about how manufacturers use model numbers. The Commission's experience with a database of hundreds of models demonstrates that unless rules are clear and explicit, substantial confusion and inconsistency can result.

Review by Executive Director; Commission Database. Subsections (b),(c),(d), and (e) describe the creation and maintenance of the Commission's official appliance database. When manufacturer statements are received (see previous paragraph), the Executive Director of the Commission (or his or her designee) reviews those statements for completeness and accuracy. Models for which complete and accurate statements have been submitted are then placed in the Commission's database. Listing in the database confirms compliance with the regulations and allows the model to be sold or offered for sale in the state. The proposed regulations would also give the Executive Director ongoing authority to confirm and update information and the database.

Filing by Third Parties. Some appliance manufacturers prefer to have a third party, such as a trade association, submit the required statements and other data on their behalf. The Commission encourages such alternative, potentially cheaper, methods of compliance, and the proposed amendments specifically allow third-party filing. Proposed Section 1606(f) specifies what is necessary and includes appropriate guarantees of reliability.

Electronic Filing. Because submitting data electronically is usually more simple and less expensive than making paper filings, proposed Section 1606(g) allows electronic filing under certain specified conditions.

Trade Association Directories. Some appliance manufacturer trade associations publish their own widely-used directories of appliances, which include information about size, features, energy use, and so on. The use of such alternatives to the Commission's database can save money for manufacturers and for state government, and so the Commission has encouraged their use, consistent with appropriate protection for users of the directories. For the past several years the Commission has approved trade association directories for use in building standards compliance. (See Title 24, California Code of Regulations, Part 6, Subchapter 1, Section 100(g).) Based on that experience, Section 1606(h) of the proposed amendments would expand the potential use of third-party directories to the appliance standards, and would establish rules for ensuring accuracy and completeness.

#### Section 1607: Marking of Appliances.

Section 1607 of the current regulations requires the marking of a small number of appliances with energy information. Proposed Section 1607 would expand the requirements to include several additional appliances for which marking is feasible, consistent with federal law.

#### Section 1608: Compliance, Enforcement, and General Administrative Matters.



The current regulations do not contain in one place a simple listing of all the requirements that must be met before an appliance may be sold or offered for sale California. In addition, the current regulations are not entirely clear about how and when the Commission undertakes enforcement and the consequences of a failure to comply. The proposed regulations would add and clarify provisions on these matters.

**Amendments to the Building Standards (Title 24, Part 6, Subchapter 2, Sections 110, 111)**

The Commission's current building standards state that appliances installed in buildings must comply with the applicable provisions of the appliance regulations. The proposed regulations would add language to Sections 110 and 111 to make clear that the appliance regulations are incorporated by reference into the building standards. Such a statement is probably necessary in order to allow the Commission to independently enforce the federal standards that are included within the appliance regulations. As we noted above, independent enforcement is necessary to ensure that Californians get the full benefits of standards, because enforcement at the federal level is minimal at best.